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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,008	05/25/2005	Sreeram Venkitasubrahmanian	US020475	1370
24737 7590 11/14/2007 PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			EXAMINER LE, TUNG X	
			ART UNIT 2821	PAPER NUMBER
			MAIL DATE 11/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/537,008	Applicant(s) VENKITASUBRAHMANIAN ET AL.	
	Examiner Tung X. Le	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/25/2005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to the applicant's communication filed on May 25, 2005. In virtue of this filing, claims 1-20 are currently presented in the instant application.

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recited limitations of "at least one transistor" in claim 8, "at least one additional pair of fluorescent lamps" in claim 10, and "at least one additional corresponding striation correction circuit" in claim 10 **must be shown** or the feature(s) canceled from the claim(s). No new matter should be entered.

2. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 1 is objected to because of the following informalities:

Claim 1, line 10, "fluorescent tube" should be changed to --fluorescent lamp--.

Claim 1, lines 12, "fluorescent tube" should be changed to --fluorescent lamp--.

Claim 15, line 1, "the striation correction circuit" should be changed to --a striation correction circuit--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5-9, 11-12, and 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Steigerwald et al. (U.S. 5,701,059).

With respect to claim 1, Steigerwald discloses in figures 2 and 6 a fluorescent lamp circuit, comprising a power source (having a power source [10] for providing a DC power [Vdc] to the lamps) selectively arranged to deliver power to a load (having a load circuit including elements [Zp1, Zp2, and C5]); a first fluorescent lamp (12) coupled to the power source; a second fluorescent lamp (22) coupled in series to the first fluorescent lamp and coupled to the power source (figures 2 and 6); and a striation correction circuit (Zp1 and Zp2) coupled to the power source and coupled to the first and second fluorescent lamps that is arranged to apply a first striation correction current (I1) to the first fluorescent lamp (12) and a second striation correction current (I2) to the second fluorescent lamp (22) wherein a first voltage (VL1) appearing across the first fluorescent lamp resulting from the first striation correction current (I1) is substantially similar in magnitude (since the lamps [12, 22] connected in series, the currents [I1 and I2] are substantially similar in magnitude) and having inverted polarity (having diode [Dp1] connected in opposite direction with diode [Dp2]) with respect to a second voltage (VL2) across the second fluorescent lamp resulting the second striation correction current (column 3, lines 61-65 and column 4, lines 1-10).

With respect to claim 5, Steigerwald discloses in figure 6 that the striation correction circuit comprises a first lamp correction circuit (Zp1) for generating the first striation correction current in the first fluorescent lamp (12) and a second lamp

correction circuit (Z_{p2}) for generating the second striation correction current in the second fluorescent lamp (22).

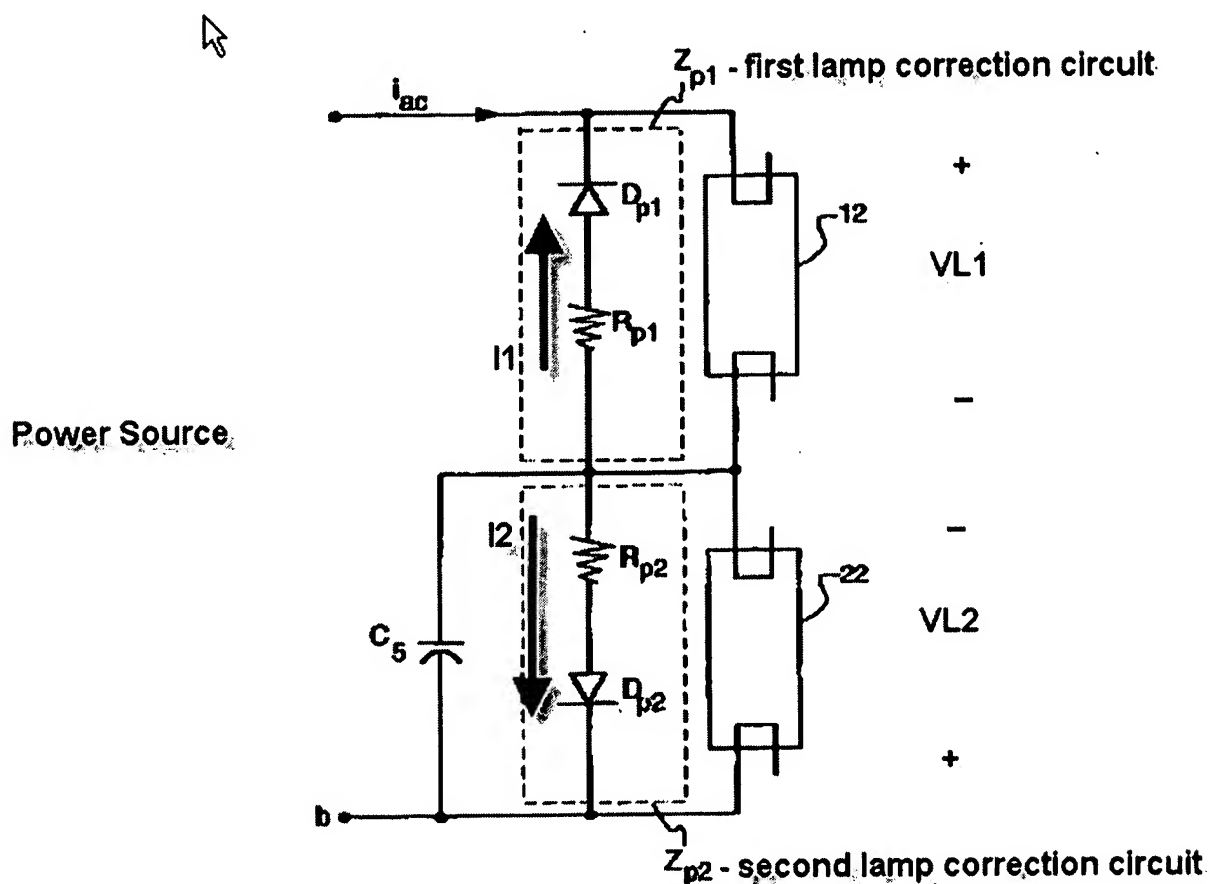


FIG. 6

With respect to claim 6, Steigerwald discloses that the first lamp correction circuit is arranged in parallel with the first lamp (figure 6) and the second lamp correction circuit is arranged in parallel with the second lamp (figure 6) and wherein the first and second lamp circuits are in series (figure 6).

With respect to claim 7, Steigerwald discloses that the first lamp correction circuit (Zp1) and the second lamp correction circuit (Zp2) each comprise a diode (Dp1 and Dp2) in series with a resistor (Rp1 and Rp2) and wherein the first and second lamp correction circuits are arranged symmetrically with the diodes opposing one another (figure 6).

With respect to claim 8, Steigerwald discloses in figure 6 that the first lamp correction circuit and the second lamp correction circuit comprises at least one transistor (having the two diodes [Dp1 and Dp2] functioning as semiconductor transistors).

With respect to claim 9, Steigerwald discloses in figure 3 that the power source is a fluorescent lamp ballast (10) coupled to the first and second fluorescent lamps through an isolation transformer (To).

With respect to claim 11, Steigerwald discloses in figures 2 and 6 that the first and second striation correction currents are DC signals (column 2, lines 57-62) and wherein the first striation current is opposite in sense to the second striation current (figure 6).

With respect to claim 12, Steigerwald discloses in figures 2 and 6 a method of reducing striations in a fluorescent lighting system, comprising generating a first striation connection current (I1) and a second striation correction current (I2); applying the first striation correction current to a first fluorescent lamp (12); and applying the second striation correction current to a second fluorescent lamp (22), wherein the first fluorescent lamp and the second fluorescent lamp are coupled in series (figure 6) and

wherein a first voltage (VL1) appearing across the first fluorescent lamp resulting from the first striation correction current is substantially similar in magnitude (since the lamps [12, 22] connected in series, the currents [I1 and I2] are substantially similar in magnitude) and having inverted polarity with respect to a second voltage (VL2) appearing across the second fluorescent lamp resulting from the second striation correction current (figure 6).

With respect to claim 15, Steigerwald discloses in figure 6 that a striation circuit (Zp1 and Zp2) comprises a first lamp correction circuit (Zp1) for generating the first striation correction current (I1) in the first fluorescent lamp (12) and a second lamp correction circuit (Zp2) for generating the second striation correction current (I2) in the second fluorescent lamp (22).

With respect to claim 16, Steigerwald discloses that the first lamp correction circuit is arranged in parallel with the first lamp (figure 6) and the second lamp correction circuit is arranged in parallel with the second lamp (figure 6) and wherein the first and second lamp correction circuits are in series (figure 6).

With respect to claim 17, Steigerwald discloses in figure 6 that the first lamp correction circuit and the second lamp correction circuit each comprises a diode (Dp1 and Dp2) in series with a resistor (Rp1 and Rp2) and wherein the first and second lamp correction circuits are arranged symmetrically with the diodes opposing one another (figure 6 shows the diodes [Dp1 and Dp2] opposed direction to each other).

With respect to claim 18, Steigerwald discloses in figure 6 that the first lamp correction circuit and the second lamp correction circuit are comprised of at least one component selected from the group consisting of a diode (Dp1 and Dp2).

With respect to claim 20, Steigerwald discloses in figures 2 and 6 a system for reducing striations (column 3, lines 1-10) in a multi-tube fluorescent lamp assembly (12, 22), comprising means for generating a first striation correction current (I1) and a second striation correction current (I2); means for applying the first striation correction current to a first fluorescent lamp (12); means for applying the second striation correction current to a second fluorescent lamp (22); and wherein the first fluorescent lamp and the second fluorescent lamp are coupled in series (figure 6) and wherein a first voltage (VL1) appearing across the first fluorescent lamp resulting from the first striation correction current is substantially equal in magnitude (since the lamps [12, 22] connected in series, the currents [I1 and I2] are substantially equal in magnitude) and having inverted polarity (figure 6 shows the two diodes [Dp1 and Dp2] inverted polarity to each other) with respect to a second voltage (VL2) appearing across the second fluorescent lamp resulting from the second striation correction current (figure 6).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steigerwald et al. (U.S. 5,701,059).

With respect to claims 10 and 19, Steigerwald discloses all of the claimed subject matter, as expressly recited in claims 1 and 12, except for an explicit teaching in that the lamp circuit further comprises at least one additional pair of fluorescent lamps and at least one additional corresponding striation correction circuit all coupled to the power source and wherein the at least one additional pair of fluorescent lamps are arranged in series with the first and second fluorescent lamps. However, this difference of having one additional pair of fluorescent lamps connected in series with the lamps is not of patentable merits since the number of lamps connected in series of the circuit can be selected at a desired number based on a particular application or environment of use. Therefore, to employ the circuit of Steigerwald at a multiple lamp connected in series to be suitable to a desired application or environment of use would have been deemed obvious to a person skilled in the art (i. e., Sullivan et al., U.S. 5,841,239).

8. Claims 2-4 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steigerwald et al. (U.S. 5,701,059) in view of Murakami et al. (U.S. 2002/0105283 A1).

With respect to claims 2 and 13, Steigerwald discloses all of the claimed limitations, as expressly recited in claims 1 and 12, except for specifying that the fluorescent lamp circuit further comprises an end-of-life (EOL) detection circuit coupled to the lamps.

Murakami discloses in figures 1-2 a fluorescent lamp circuit including an EOL (LT1, C6, and C9) connected in series to the lamps (La1, La2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the lamp circuit of Steigerwald by having an EOL detecting circuit coupled to the lamps in order for detecting the lamp life end condition in a particular of the temperature environment since such a use of an EOL detection circuit in the lamp circuit for the stated purpose has been well known in the art as evidenced by the teaching of Murakami (paragraphs [0008-0009]).

With respect to claims 3 and 14, the combination of Steigerwald and Murakami disclose that the EOL circuit further comprises a capacitor (C9) arranged in series (Murakami, figure 2) with the lamps to sense voltage changes in a closed loop (having a closed loop connected between the lamps, capacitor [C9] and the second winding [N2] of Murakami) circuit with the power source (Murakami, element [DB]) and the lamps (figures 1-2 of Murakami).

With respect to claim 4, the combination of Steigerwald and Murakami disclose that the EOL circuit further comprises a current sense transformer (Steigerwald, figure 3, element [L1] functioning as a current sense transformer for the lamps).

Citation of Relevant Prior Art

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Poehlman (U.S. 2005/0168171 A1) discloses a method for controlling striations in a lamp powered by an electronic ballast.

Nerone (U.S. 2003/0015970 A1) discloses an electronic elimination of striations in linear lamps.

Ribarich (U.S. 6,008,592) discloses an end of lamp life or false lamp detection circuit for an electronic ballast.

Inquiry

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung X. Le whose telephone number is 571-272-6010. The examiner can normally be reached on 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner
Tung Le
AU 2821

November 06, 2007

Douglas W. Owens 11/9/07

DOUGLAS W. OWENS
SUPERVISORY PATENT EXAMINER